

CLAIMS

1. An X-ray system having an X-ray-sensitive camera for the creation of tomographic images, **wherein** means for creating 3D images of a subvolume of the mandibular arch are provided.
2. An X-ray system as defined in claim 1, wherein a first image detector for the creation of a panoramic tomographic image and a second image detector for the creation of a 2D image are provided and means are also provided for creating several 2D images from different directions and computing a 3D image therefrom.
3. An X-ray system as defined in claim 2, wherein said second image detector is a face sensor.
4. An X-ray system as defined in any one of claims 1 to 3, wherein control means are provided such that within the 3D image a subvolume comprising a portion of the panoramic tomographic image can be imaged.
5. An X-ray system as defined in any one of claims 1 to 4, wherein means are provided for the creation of 3D images using the cone beam technology with associated reconstruction algorithms.
6. An X-ray system as defined in any one of claims 1 to 5, wherein adjustment means and/or control means are provided, by means of which said camera and an X-ray emitter can be adjusted such that the center of rotation is in the subvolume to be imaged.
7. An X-ray system as defined in any one of claims 1 to 6, wherein adjustment means are provided by means of which said camera and/or said image detector and/or said X-ray emitter and/or a primary diaphragm and/or combinations thereof can be adjusted such that said second image detector present in said camera can be moved into the optical path of said X-ray emitter.

8. An X-ray system as defined in claim 7, wherein said adjustment means are provided in the casing of the camera or in connecting means located between said camera and a support or on said support itself.

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9. An X-ray system as defined in any one of claims 1 to 8, wherein there is additionally provided an installation for the creation of teleradiographic images with another image detector and, when said X-ray emitter is aligned for the purpose of creating a teleradiographic image, said camera is disposed in the region of the optical path between said X-ray emitter and said image detector of said installation for the creation of teleradiographic images and is radiolucent in said region.

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10. An X-ray system as defined in any one of claims 1 to 8, wherein there is additionally provided an installation for the creation of teleradiographic images with another image detector and the path of adjustment is such that, when said X-ray emitter is aligned for the creation of a teleradiographic image, said camera can be moved out of the optical path between said X-ray emitter and said image detector of said installation for the creation of teleradiographic images.

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11. An X-ray system as defined in any one of claims 1 to 10, wherein said camera is mounted for eccentric displacement and that, in a first position, said image detector is positioned in the X-ray fan beam for the creation of a panoramic tomographic image and, in a second position, said image detector is positioned in the X-ray fan beam for the creation of a 3D image.

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12. An X-ray-sensitive camera, comprising a first X-ray-sensitive image detector for the creation of a tomographic image, **wherein** a second X-ray-sensitive image detector for the creation of plane images is provided.

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13. A camera as defined in claim 12, wherein the two image detectors are disposed in a common casing.

14. A camera as defined in claim 13, wherein said second image detector is disposed alongside said first image detector.
- 5 15. A camera as defined in claim 13, wherein said second image detector is disposed on the rear side of said first image detector.
16. A camera as defined in any one of claims 12 to 15, wherein said second image detector is adapted for retrofitting.
- 10 17. A camera as defined in any one of claims 12 to 16, wherein adjustment means are provided for optionally effecting the necessary alignment of said first image detector or of said second image detector relative to an X-ray emitter for the creation of the respective X-ray image.
- 15 18. A camera as defined in claim 17, wherein said adjustment means and the two image detectors are housed in a common casing with the camera.
19. A camera as defined in claim 18, wherein said adjustment means are provided on said casing of said camera and in the region of connecting means for the
20 attachment of said camera to a support and said camera can be variably displaced, as an entity, relatively to said connecting means.
20. A camera as defined in any one of claims 12 to 19, wherein said camera exhibits a radiolucent region.
- 25 21. A camera as defined in claim 20, wherein said radiolucent region is disposed between or alongside said first and second image detectors.